

Butte County Integrated Watershed
and Resource Conservation Plan

Amendment 1 – Scope of Work

The Scope of Work (SOW) described herein amends the original SOW under contract 4600001634. The SOW, terms, and conditions of the original contract remain the same except where modified by this amendment.

Task 9: Integrated Watershed Modeling Plan

To investigate options for developing an integrated watershed model the Contractor shall 1) develop modeling objectives and goals, 2) identify different watershed models and determine the applicability to Butte County, and 3) develop a strategy for moving to implementation.

Subtask 9.1 - Objectives and Goals

The contractor shall coordinate with the Butte County Department of Water and Resource Conservation, Butte County Integrated Watershed Stakeholder Group, and the California Department of Water Resources (DWR) to describe the objectives and goals for watershed modeling in relation to the Butte County Integrated Watershed and Resource Conservation (IW&RC) Plan. The identified goals and objectives must describe the required and desired factors needed by a watershed model to evaluate water management options under the IW&RC Plan. At minimum, the following factors shall be evaluated: stream-aquifer interaction, snowmelt runoff, flooding potential, environmental impacts from land use changes, and sediment transport patterns in major streams and rivers in Butte County.

Subtask 9.2 - Model Selection

The contractor shall review available reports and documents to identify gaps in existing data necessary for developing a model and describe potential analytical tools that may be used for the modeling with proper explanation of the reasons for selection of the model and the merits for use in Butte County. The objectives and goals identified in Subtask 9.1 will be used with available data in model selection process. At minimum the following Models will be evaluated: 1) Watershed Environmental Hydrologic Model developed by University of California Davis, 2) the Precipitation-Runoff Modeling System developed by U.S. Geological Survey and DWR, and 3) Integrated Hydrological Modeling System, Mike SHE, developed by the Danish Hydraulic Institute. An important consideration in model selection is the ability interact with the Butte Basin groundwater model and hydro-climatic models.

Subtask 9.3 - Modeling Strategy

The contractor shall develop a modeling strategy for data management, documentation/record keeping, and organization of data and files for multiple

alternatives analyses. Specific issues to be evaluated include but are not limited to, identifying the priorities for implementing the modeling strategy, developing a workplan that identifies the steps and resources to complete these priorities, and developing a funding strategy for implementation.

The Contractor shall develop TM 8 (Integrated Watershed Modeling Plan) to document the findings from Task 9. Following receipt of the State's comments the Contractor shall incorporate the comments and submit a final Integrated Watershed Modeling Plan.

DELIVERABLES/MILESTONES

Contractor shall provide contract deliverables according to the following schedule:

1. Draft and final Technical Memoranda will be prepared to document the efforts of the various tasks in accordance with the following schedule.

TECHNICAL MEMORANDUM	DRAFT	FINAL
TM 1 – Project Work Plan	July 19, 2002	September 30, 2002
TM 2 – Outreach Plan	November 15, 2002	April 1, 2003
TM 3 – Basin Management Objectives Summary Report	March 1, 2004	May 1, 2004
TM 4 – Future Water Demand Forecast Report	July 31, 2003	August 30, 2003
TM 5 – Environmental Monitoring Plan	September 30, 2003	October 31, 2003
TM 6 – Drought Preparedness Plan	September 30, 2003	November 30, 2003
TM 7 – Groundwater Management Plan	May 30, 2003	June 30, 2003
TM 8 – Integrated Watershed Modeling Plan	March 1, 2004	May 30, 2004

2. Draft and final versions of the following report will be submitted in accordance with the schedule identified below:

REPORT	DRAFT	FINAL
IWMP-Basin Assessment Report	January 30, 2004	May 30, 2004